



The image contains two technical drawings of a manhole assembly. The top drawing is a 'PART PLAN' view, showing a cross-section of the manhole structure. It features a central hexagonal opening with a dashed circle inside, representing a hole for a bolt. The drawing is symmetrical about a vertical centerline, indicated by a dashed line and the text 'SYM. ABOUT C'. Dimensions include a '3/8" FRAME' on the left and a 'WELD ALL BARS AT HOLD DOWN BOLT.' at the top. A dimension of '3/16' is shown on the right side.

The bottom drawing is a side elevation view of the manhole assembly. It shows the vertical components, including a '3/8" FRAME' on the left, a 'BAR 2 1/2" X 1/4"' at the top, and a 'HEX HEAD SLOT 1/8" TO 5/32" WIDE BY 1/8" TO 3/16" DEEP'. A '1/2" φ STAINLESS STEEL HOLD DOWN BOLT WITH HEX HEAD AND SQ. NUT, 1 1/4" LONG. WELD NUT TO 3/4" X 3/4" BAR (4 PER DRAIN)' is shown. A 'BAR 1 1/8" X 1 1/8" X 3/8" WITH 5/8" φ HOLE FOR BOLT' is also indicated. A '3/4" φ BAR' is shown at the bottom. A 'FABRICATOR MAY USE A 1/2" THICK STAINLESS STEEL BAR DRILLED & TAPPED FOR 1/2" φ BOLT INSTEAD OF SQ. NUT SHOWN.' is noted. Dimensions include '1 1/8" ±' for the top section, '1/4"' for the bolt length, and '3/16' for the bottom section. A 'SEAL WELD' is shown at the bottom right.

3/8"

1'-0 3/4"

6 3/8"

6 3/8"

3/4"

2 1/2"

1/4"

4"

3/4"  $\phi$  ADJUSTING BOLT AND 2 NUTS - 4 REQ'D. PER DRAIN. (LENGTH AS REQ'D.)

BEND LINE

BRACKET

1'-0"

3"

1'-0"

BOTTOM OF GIRDER

WHERE CLEARANCE AVAILABLE

Technical drawing of a grate detail for a frame, showing dimensions and assembly instructions.

Dimensions and Labels:

- 2 SPAS @ 4"
- 1'-11 5/8"
- 1'-0 1/2"
- BAR 2 1/2" X 1/4"
- BAR 1 3/4" X 1/4"
- 1/8" CL.
- CROSS BAR 0.083 SQ. IN. MIN. AREA
- WELD EVERY 4TH BAR (MIN.) AS SHOWN EXCEPT WHERE NOTED OTHERWISE
- G.F.

Assembly Instructions:

- PLACE THIS EDGE ADJACENT TO PARAPET
- BAR 1 3/4" X 1/4", WELD TO 2 1/2" X 1/4" BAR
- HOLD DOWN BOLT

**GRATE DETAIL**

ATTACH GRATE TO FRAME FOR SHIPMENT

1/4" ALLOW FOR TIGHTENING

1/2"  $\phi$  BOLT

2 1/2" X 3/8" BAR (TYP.)

3"

6 5/8" D.I.A.

1 1/2"

1/4"

FACE OF GIRDER WEB

1 1/2"

1/8"  $\phi$  HOLE FOR 3/4"  $\phi$  BOLT

1/2"  $\phi$  BOLT-THRU 5/16"  $\phi$  HOLE & 5/16" X 2 1/2" SLOTTED HOLE.

APPROVED:	DATE:
	1/99